BACTERIOLOGICAL ANALYSIS OF PATIENTS SUFFERING FROM INFECTED SCABIES*

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Summary

Scabies is considered to be the commonest disease among the patients attending most Dermatology out-patient departments in our Country. Pyoderma sometimes appears as the main clinical presentation in scabies. The treatment of pyoderma can be rational only if the clinician has thorough knowledge of the nature & behaviour of the causative organisms as well as their sensitivity patterns to antibiotics.

A bacteriological survey of 75 patients with scabies was done in the Department of Dermatology of the B.R.D. Medical College, Gorakhpur in association with the Department of Pathology. This study involved a detailed history and clinical examination as well as culture and sensitivity test in each case. Staphylococcus was found to be the commonest organism responsible for the secondary infection.

Acarus infestation has plagued man for thousands of years. This transmissible, highly pruritic disease is caused by the human itch mite called *Sarcoptes scabei var hominis*. Scabies is considered to be the commonest disease among the patients attending most Dermatology out-patient departments. Pyoderma sometimes appears as the main clinical presentation in scabies. Gourley[1] reported 5% impetigo in scabies, Sehgal et al[2] 21%, and Hati et al[3] 74%. Glomerulonephritis sometimes complicates pyoderma, particularly in children.

With the advent of a large number of antibiotics there has occurred the problem of drug resistance. The satisfactory treatment of pyogenic infection thus depends upon the clinician's knowledge regarding the organisms responsible for the infection as well as its/their anitbiotic sensitivity pattern.

This paper records the prevalence of infectious pyogenic organisms in a group of scabetic patients and their antibiotic sensitivity patterns.

Material and Methods

The present study of infected scabies has been carried out in the Dermatology out-patient department and Pathology Department of B.R.D. Medical College, Gorakhpur from November,

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1976 to May, 1977. Patients upto the age of 40 years with clinical manifestations of scabies associated with secondary infection were included in this study. Seventy five patients thus selected at random had vesicular and pustular lesions in addition to the classical scabies with lesions in their characteristic distribution. The diagnosis was based on family history and clinical features. Patients who had taken antibiotic within 2 months before the hospital attendance were excluded from the investigation. Specimens were taken under strict aseptic precautions from infected le sions and these were immediately transferred to the laboratory for culture and sensitivity tests. The samples were inoculated on blood agar and incubated at 37°C. The organisms were identified on the basis of colony characteristics and biochemical tests. The isolated organisms were tested for antibiotic sensitivity on nutrient agar.

Results

Out of a total of 75 samples, 66 (88%) showed the presence of either *S. aureus* or *β-hemolytic streptococcus* or both. No organism could be grown in nine cases. *S. aureus* was isolated as the only organism in 54 samples, *β-hemolytic streptococcus* in 8 samples and both the organisms in 4 samples (Table 1).

TABLE 1

Organisms and Their Distribution in 66 Cases of Infected Scabies

Organisms	Number	Percentage
1. S. aureus	54	81.82
2. β-hemolytic Streptococcus	8	12.12
3. S. aureus and β-hemolytic Streptococcus	4	6.06
4. S. aureus (pure and mixed)	58	87.88
5. β-hemolytic Streptococcus (pure and mixed)	12	18.18

Only *S. aureus* isolated were subjected to antibiotic screening. By the sensitivity tests gentamicin was found to be the most effective antibiotic followed by colistin, cloxacillin erythromycin. The organisms were found to be quite resistant to tetracycline, penicillin and chloromycetin. Treatment with erythromycin was found to give the best clinical response (Table 2).

TABLE 2

Antibiotic Sensitivity Pattern of 58 Isolates of S. Aureus

Antibiotic	Sensitive	Resistant
Penicillin	7 (12.07)	51 (87.93)
Ampicillin	26 (44.82)	32 (55.18)
Cloxacillin	49 (84.48)	9 (15.52)
Colistin	51 (87.93)	7 (12.07)
Gentamicin	55 (94.83)	3 (5.17)
Erythromycin	37 (81.04)	11 (18 96)
Chloramphenicol	24 (41.38)	34 (58.62)
Tetracycline	12 (20.69)	46 (79.31)

Values in parenthesis represent the percentage values.

Discussion

Staphylococcus aureus maintains its dominance as an infecting organism and was found to be the pathogen in 86.36% of the cases in this series. This finding is very similar to those of many other workers[4,5] like Lamont and Sen Gupta who reported S. aureus as the causative agent in 86.34% and 76% of their cases respectively.

β-emolytic streptococcus was isolated in a total of 12 cases (18.18%). Lamont[4] isolated this organism in 20.26% while Sengupta[5] isolated it in 52% of the cases.

Svartman et al[6] also isolated *β-hemolytic streptococcus* from the skin lesions. Mixed infection by both the pathogens was observed in only 6 06% of cases. Some workers have shown higher incidence of mixed infection.

Svartman[6] et al could isolate nephretogenic strains of β-hemolytic streptococcus from the skin lesions, and these were found to be responsible for acute post streptococcal glomerulonephritis in a large number of patients particularly children.

The *S. aureus* isolates were subjected to antibiotic sensitivity and were found to be resistant to many antibiotics in common use. Two new antibiotics, cloxacillin and colistin, were found to be effective both in vitro and vivo. Erythromycin was the drug which was used very frequently clinically and found to give good response. Cloxacillin and colistin were used only in few selected cases, since both the drugs are comparatively costly.

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